

What is claimed is:

1. A system for wireless communication utilizing a first wireless band and a second wireless band, comprising:

a first wireless device including a first dual-band wireless transceiver and a smart antenna, the first device, using the smart antenna, uni-directionally transmitting payload data exclusively on the first band without having to reserve the first band prior to transmission; and

at least one second wireless device including a second dual-band wireless transceiver, the second device acknowledging reception of the payload data using at least one of the first and second bands by omni-directionally transmitting acknowledgment data.

2. The system according to claim 1, wherein the second device omni-directionally transmits further payload data using only the second band, the second device reserving the second band prior to transmission of the further payload data.

3. The system according claim 1, wherein the first band is 5Ghz band and the second band is a 2.4GHz band.

4. The system according to claim 1, wherein prior to uni-directionally transmitting the payload data via the first band, the first device determining location of the second device.

5. The system according to claim 1, wherein the first device omni-directionally transmits data using the second band to the second device, the first device reserving the second band prior to the transmission.

6. The system according to claim 2, wherein the uni-directional transmission of the payload data from the first device to the second device via the first band and the omni-directional transmission of the further payload data from the second device to the first device via the second band are simultaneous.

7. The system according to claim 6, wherein coverage areas of the corresponding uni-directional and omni-directional transmissions are substantially similar.

8. The system according to claim 1, wherein the first device is an access point.

9. A method for wireless communications, comprising:

a) uni-directionally transmitting payload data by a first wireless device to at least one second wireless device on a first band, the first device using a smart antenna for the transmission of the payload data, the first device transmitting the payload data without having to reserve the first band; and

b) after the step a, omni-directionally transmitting acknowledgment data by the second device to acknowledge receipt of the payload data using at least one of the first and second band.

10. The method according to claim 9, further comprising:

omni-directionally transmitting further payload data by the second device to the first device using the second band, the second device having reserved the second band prior to transmission of the further payload data.

11. The method according claim 9, wherein the first band is 5Ghz band and the second band is a 2.4GHz band.

12. The method according to claim 9, further comprising:
prior to uni-directionally transmitting the payload data via the first band, determining a location of the second device.
13. The method according to claim 9, further comprising:
omni-dimensionally transmitting by the first device data using the second band to the second device, the first device reserving the second band prior to the transmission.
14. The method according to claim 9, wherein the uni-directional transmission of the payload data from the first device to the second device via the first band and the omni-directional transmission of the further payload data from the second device to the first device via the second band are simultaneous.
15. The method according to claim 14, wherein coverage areas of the corresponding uni-directional and omni-directional transmission substantially similar.
16. A wireless device, comprising:
a dual-band wireless transceiver capable of wirelessly transmitting using first and second wireless bands; and
a smart antenna,
wherein payload data is uni-directionally transmitted using the smart antenna on the first band without having to reserve the first band prior to the transmission of the payload data, and
wherein the transceiver omni-dimensionally transmits further payload data on the second band having reserved the second band prior transmitting the further payload data.

17. The device according to claim 16, wherein the device is an access point.

18. The device according claim 16, wherein the first band is 5GHz band and the second band is a 2.4GHz band.

19. The device according to claim 16, wherein prior to uni-directionally transmitting the payload data via the first band, the device determines a location where the payload data is to be transmitted.

20. The device according to claim 19, wherein the uni-directional transmission of the payload data via the first band and the omni-directional transmission of the further payload data via the second band are simultaneous.

21. The device according to claim 20, wherein coverage areas of the corresponding uni-directional and omni-directional transmissions are substantially similar.